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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/059,157 | 01/31/2002 | Norio Kubo | 32739M070 | 6520 |

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EXAMINER

RODEE, CHRISTOPHER D

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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1756

DATE MAILED: 01/17/2003

3

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/059,157

Applicant(s)

KUBO ET AL.

Examiner

Christopher D RoDee

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-- Th MAILING DATE of this communication appears on th cover sheet with th correspond nce address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The instant claims are directed to a toner. Specifically, the claims require a replenishment toner wherein a percentage by volume of toner particles with particle diameters of 5.04 μm or smaller contained in the replenishment toner is in a range from 1.5 to 3.5 times a percentage by volume of such toner particles contained in an initial toner loaded initially in an image forming apparatus. The percentage of toner particles having the diameter of 5.04 μm or smaller is based on the initial toner loaded initially in an image forming apparatus. The instant claims are indefinite because the characteristics of the initial toner are not defined in the instant claims.

In order for the artisan to know the percentage by volume of replenishment toner particles with particle diameters of 5.04 μm or smaller the artisan must know the by volume of initial toner particles with particle diameters of 5.04 μm or smaller. Because the claims do not specify the initial toner characteristics pertinent to the instant claims, the claims are indefinite.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Mikuriya *et al.* in US Patent 5,849,453.

Mikuriya discloses a toner used in the formation of a toner image. In the process, a latent image is developed by a step of developing with a developing means a latent image formed on a latent image bearing member; transferring the toner image formed, from the latent image bearing member to a transfer medium through a transfer means to which a bias is applied; cleaning the latent image bearing member from which the toner image has been transferred to the transfer medium, to recover and collect the toner remaining on the latent image bearing member; and feeding the toner recovered and collected, to the developing means for reuse in the developing step. The collected toner replenishes the toner remaining in the toner housing 3 (see col. 14, l. 24 - col. 15, l. 53).

Example 1 shows the characteristics of an unused toner according to the instant invention. This toner has a 13.0 % based on volume of toner particles at 5.04 μm or smaller (col. 17, l. 22 - col. 18, l. 32; Table 1). Toner placed in the imaging device but unused is collected and its size characteristics analyzed. This toner has a 20.1 % based on volume of particles particles at 5.04 μm or smaller (col. 18, l. 34 - col. 19, l. 25; Table 2). The collected toner is used to replenish the toner supply of the device (see Figure 1). The percentage by

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volume of toner particles with particle diameters of 5.04 μm or smaller contained in the replenishment toner is 1.55 times a percentage by volume of such toner particles contained in an initial toner loaded initially in an image forming apparatus. The requirements of claim 1 are therefore met by the reference.

The reference discloses the toner as being effective in both one and two-component developer systems (col. 5, l. 14-15; col. 10, l. 1 *et seq.*).

The reference is applicable to claim 2 for the following reasons. Each toner appears to be substantially homogeneous because each toner is formed by a process where the toner is formed from the same composition without special processing. For example, in Example 7 the toner components are thoroughly mixed, kneaded, cooled, crushed, and classified. The toner of Example 7 has a weight-average particle diameter of 8.04 μm (col. 25, l. 64 - col. 26, l. 63). The weight-average and volume-average particle diameters would be the same for a homogeneous composition. Thus Example 7 has a volume-average particle diameter of 8.04 μm . Examples 8-11 also disclose weight-average and volume-average diameters within the scope of claim 2. Any toner disclosed in Mikuriya meets the requirements of the claimed replenishing toner because the initial toner in the claims is undefined and the artisan can pick, arbitrarily, any condition for the initial toner so that a disclosed toner falls within the claims' scopes for the replenishing toner. See § 112, second paragraph, rejection above. Thus the disclosure of a toner with a volume-average particle diameter within the scope of claim 2 meets the requirements of the claims because the initial toner conditions can be arbitrarily chosen (i.e., there is no guidance in the claims as to the initial toner characteristics).

The reference is also applicable to claim 3 because any disclosed toner in the reference could be considered to have the same size as an initial toner because the claims do not specify the characteristics of the initial toner. Thus, the starting toner of Example 1 meets the

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requirements of the claimed replenishing toner because the initial toner in the claims is undefined and the artisan can pick, arbitrarily, any condition for the initial toner so that a disclosed toner falls within the claims' scopes.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mikuriya *et al.* in US Patent 5,849,453.

In the event claims 2 and 3 do not include any arbitrary selection of characteristics for the initial toner, the artisan would have found it obvious to match the size of the initial and replenishing toner because the reference discloses concern for the change in toner size characteristics through use (col. 4, l. 23-31 & 41-48). The reference seeks to have a small particle size distribution so that the toner is consumed relatively evenly throughout use with some broadening of the particle size distribution as the average sized particles are transferred in the imaging process. Examples 7-11 show that the D₄ particle size is minimally changed with use (Tables 11A & 11B). Thus the artisan would have ample motivation to produce a toner so that the initial toner and used toner (i.e., toner returned or replenished to the toner housing) have the same average size.

The reference discloses Example 7's initial toner as having 5.8 volume % of toner particles at 5.04 μm or smaller while Example 8's toner has 7.6 volume % of initial toner

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particles at 5.04 μm or smaller. Given the guidance in Example 1, as discussed above, where the amount of toners in this size range increases by a factor of 1.55 times for the used (replenishing) toner, the artisan would have found it obvious to have the same or similar change in toner particle size distribution at 5.04 μm or smaller for the toners of Examples 7-11.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher D RoDee whose telephone number is 703 308-2465. The examiner can normally be reached on most weekdays from 6 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 703 308-2464. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872-9310 for regular communications and 703 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-0661.

cdr
January 14, 2003


CHRISTOPHER RODEE
PRIMARY EXAMINER

| | Type | L # | Hits | Search Text | DBs | Time Stamp |
|---|------|-----|------|--|------------------------|---------------------|
| 1 | BRS | L2 | 3639 | (replenish\$8 or replace\$8) near4 toner\$1 | USPAT; US-PG PUB | 2003/01/14 09:16 |
| 2 | BRS | L3 | 2340 | (replenish\$8) near4 toner\$1 | USPAT; US-PG PUB | 2003/01/14 09:20 |
| 3 | BRS | L4 | 5 | I3 and 430/11 0.4.ccls. | USPAT; US-PG PUB | 2003/01/14 09:20 |
| 4 | BRS | L5 | 29 | I3 and 430/110.4.ccls. | USPAT; US-PG PUB | 2003/01/14 09:25 |
| 5 | BRS | L6 | 211 | 430/110.4.ccls. | USPAT; US-PG PUB | 2003/01/14 09:26 |

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